

## **P2NP USING BENZALDEHYDE AND NITROETHANE** **CONDENSATION**

- 150ml of cyclohexylamine is added to the flask for condensation.
- 750ml of benzaldehyde is poured in the flask until the amine smell disappeared.
- Mix it properly in the flask.
- 300 ml Glacial acetic acid (GAA) is poured in the flask.

[Note 1:- if the mixture is self-heated, the flask has to be cooled under a running water or GAA has to be added slowly.]

Note 2:- a white thick fog is formed during the reaction mixture so that the reaction should be carried under a well-ventilated place (fume hood)]

- 750ml of Nitroethane is added (mix well).
- A water bath is set up and the flask is equipped with a reflux condenser is lowered into the water bath at 50-60 C for 6 hours.
- After 6 hours the mixture is mixed into the water bath the colour will change from light yellow to deep yellow.
- The flask is taken out of the water bath. After a while the RM is poured into a beaker and left to be cooled (if it starts to crystallise it tells that the P2NP is quite pure)
- Iso-propyl alcohol is used if the RM is syrupy thick. RM residue is washed off during a product transferring in order to save the losses as much as we can.
- The RM in the beaker is closed using a polyethene and sealed by a rubber band the mixture is mixed and left to be cooled. Then wait for some time and the P2NP crystals are introduced then the crystallization starts.  
Wwiiiiittttttt!!!
- P2NP is vacuum filtered.
- Mother liquor is then transferred into another beaker and P2NP is washed with ice cold IPA.
- Water is added until additional crystals appeared wait for several hours. Then these crystals are filtered off these crystals are air dried for one week to a constant weight

Total yield is 1101 gm

67% of theoretical yield.